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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/608,002	SASAKI ET AL.	
	Examiner	Art Unit	
	James S. Wozniak	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,6,7,9,11-27,31,32,34-44,46 and 48-72* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,6,7,9,11-27,31,32,34-44,46 and 48-72* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 October 2007* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. In response to the office action from 4/5/2007, the applicant has submitted an amendment, filed 10/5/2007, amending independent claim 1, making claim 14 an independent claim, while adding claims 59-72 and arguing to traverse the art rejection based on the limitation regarding continuation of the dialog on the basis of an evaluation of the consistency of the dialog *(Amendment, Pages 36-37)*. Applicant's arguments have been fully considered, however the previous rejection, altered with respect to the amended claims, is maintained due to the reasons listed below in the response to arguments.

2. In response to the amendments to the specification, drawings, and claims the examiner has withdrawn the previous objections directed towards the misuse of the term "voice recognition".

3. As the camera, plurality of cameras, microphone, and plurality of microphones are still not shown in the figures, the previous drawing objection is maintained.

4. In response to the claim amendments, the examiner has withdrawn the previous 35 U.S.C. 112 first and second paragraph rejections.

5. In response to the amendment of claim 1, the examiner has withdrawn the previous 35 U.S.C. 101 rejection.

6. The applicant argues that amended claim 58 overcomes the previous 35 U.S.C. 101 rejection. In response the examiner notes that this claim is still defined in terms of the program ("the subroutines of") instead of the method that is performed when the program is executed by the computer, thus the invention's functionality is not realized. Also, the instructions are not "executable instructions" or a "program" (i.e., instructions executable by a computer) or stored/encoded on a computer readable medium and for these reasons also, the claim fails to realize the functionality of the program. Therefore, the previous 35 U.S.C. 101 rejection with respect to claim 58 is maintained.

Response to Arguments

7. The applicant's arguments with respect to the prior art of record *(Amendments, Pages 36-37)* have been fully considered, but are moot with respect to the new grounds of rejection, necessitated by the plurality of claim amendments. Also, in response to the applicant's argument that Ishibashi *(USPTO translation of JP 06269534 from 2/2007)* fails to teach or suggest the continuation of a dialog on the basis of the evaluation results of the correctness of the answer, the evaluation of the consistency of the interactive dialog and/or the learning unit, the examiner notes that Ishibashi does teach continuation of a dialog on the basis of evaluating an answer's correctness and evaluating the consistency of the dialog. More specifically, Ishibashi teaches

that a game dialog is analyzed to ensure that an answer is consistent with the previous game dialog rules and continues a game dialog if the user responds correctly *(Pages 5-6, Paragraphs 0006-0008)*. Also, Ishibashi is not relied upon for the teaching of a learning unit. The learning unit, as amended, is disclosed by the teachings of other prior art references *(see below rejection)*.

Drawings

8. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the camera, plurality of camera, microphone, and plurality of directional microphones must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

9. **Claims 1-57** are objected to because of the following informalities:

In claim 1, in the limitation "an evaluation unit...configured to evaluate...dialog said user, the consistency", "said user" should be deleted.

In claim 14, "an output unit is configured to output" should be changed to --an output unit that is configured to output--.

In claims 53-54, "the recognition unit" should be changed to --the face recognition unit--.

Further, dependent claims 2-13, 15-52, and 55-57 fail to overcome the above objections directed to the independent claims, and thus, are also objected to due to minor informalities.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. **Claims 1, 3, 6-7, 9, 11-13, 19-27, 31-32, 34-44, 46, and 48-69** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The

claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The following claims have new matter issues:

Claim 1 recites a database which contains a dictionary of words and phrases having a syntactic pattern of the string of words included in the phrase. This dictionary is recited as being used for both speech synthesis and recognition. This subject matter is not supported by the specification. The specification makes no mention of syntax or any type of grammar rules or understanding. There is also no mention of stringing words together according to syntax to create a phrase for a voice output or recognition. The specification also fails to mention a unified dictionary used for synthesis and recognition. Rather, the claimed invention uses a separate recognition dictionary containing *words* and in voice synthesis simply connects a pre-stored sentence *(the terminology "phrase" is not supported)* to the device's word answer in the game dialog *(i.e., word + sentence=voice output) (for example, see Page 6 of the specification).*

Claim 19 recites an index that is assigned to answer phrases based on a degree of difficulty and an evaluation unit for measuring a difference between a user's word difficulty and the system word difficulty to limit selected answer words. The specification makes no mention of phrase or even word indexing based on a degree of difficulty. Further, the specification fails to mention any type of indexing scheme or process. The specification also makes no mention of measuring the difference in difficulty of a user word and a system word and further using this difference to select words for future voice outputs.

Claim 34 recites waiting to output a system answer until a predetermined time. There is only mention of waiting for a user to respond in the specification, the system instead responds without delay to a user's input.

Claim 39 recites having to encounter a scenario at least two times for it to be re-written as a frequently-used scenario. The specification makes no such qualification. Rather, it appears that the dialog system learns a response that it did not previously know in a past dialog and re-writes the scenario, but not as a "frequently-used" scenario. Nor does this scenario-learning process have the aforementioned qualification.

Claim 49 recites recognizing a user's face to recognize a user's profile. There is no support for this limitation in the specification.

Claims 56-57 recite that a camera moves to find a user's face, which is not supported in the specification. Rather, the specification seems to disclose that a "system" "turns" its attention to a user using a plurality of cameras or microphones if a user is behind a system. There is no support for moveable cameras.

Claims 58-59 and 69 contain new matter issues similar to claim 1.

Claim 65 mentions determining a spelling and syntax error. There is no mention of detecting spelling and syntax errors in the specification.

The further dependent claims relying on "phrase" or "syntax" terminology contain new matter issues similar to claim 1.

All other dependent claims, depending from the preceding parent claims, fail to overcome the preceding new matter issues, and thus, are also rejected under 35 U.S.C. 112, first paragraph as being directed to new matter.

12. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

13. **Claim 16** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 recites that a response from a user is anticipated after a users responds to a system voice output. It is uncertain how a user response could be anticipated if it has already been received (i.e., there is nothing to predict since the system already knows how the user replied). It is believed that the claim should predict a response --to-- a user as is detailed on page 17 of the specification. The claim will be interpreted accordingly for the application of the prior art of record.

Claim Rejections - 35 USC § 101

14. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

15. **Claim 58** is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 58 is drawn to a "program" *per se* as recited in the preamble *(i.e., the body of the claim is defined in terms of the program, "the subroutines of", rather than the method performed*

when a computer readable medium storing computer executable instructions are executed by a computer, --A computer readable medium storing computer executable instructions, which when executed by a computer cause the computer to perform a method for...comprising the steps of--, thus enabling the program's functionality to be realized) and as such is directed to non-statutory subject matter. Also, the "instructions" are not "executable instructions" or "instructions executable by a computer" and the program is not stored/encoded on the medium, therefore no practical application functionality is realized. See also MPEP § 2106.IV.B.1.a. Data structures not claimed as embodied in computer readable media are descriptive material *per se* and are not statutory because they are not capable of causing functional change in the computer. See, e.g., *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory). Such claimed data structures do not define any structural and functional interrelationships between the data structure and other claimed aspects of the invention, which permit the data structure's functionality to be realized. In contrast, a claimed computer readable medium encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. Similarly, computer programs claimed as computer listings *per se*, i.e., the descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

Claim Rejections - 35 USC § 102

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

17. **Claims 14-16 and 70** are rejected under 35 U.S.C. 102(b) as being anticipated by Ishibashi *(USPTO translation of JP 06269534 from 2/2007)*.

With respect to **Claim 14**, Ishibashi discloses:

A computer system that executes a word chain game which is played by a user, the word chain game being defined as a word-interchanging game between the user and the computer system in which an iterative step will be repeated until a loser is determined based on a judgment of whether the user or the computer system first breaks a rule of the word chain game, the rule saying that game players are requested to alternate outputting a word which has initial alphabet letters identical to a final plurality of alphabet letters of a previous word, but which does not finish with pre-determined alphabet letters *(shiritori game, Pages 5-6, Paragraphs 0007-0009)*, comprising:

A database that stores a dictionary containing a plurality of words *(speech recognizer word vocabulary, Pages 5-6)*;

A recognition unit configured to recognize a user's input *(speech recognizer that is capable of recognizing words from a game vocabulary stored in a memory, Pages 5-6)*;

An evaluation unit configured to determine whether or not the user's input is allowed with respect to the rule of the word chain game so as to judge whether or not the word chain game played by the user and the computer system is to be continued *(determining whether a game dialog should continue based on the consistency of voice responses with respect to game dialog rules, Pages 5-6, Paragraphs 0007-0009)*;

A selection unit configured to select a word if it is determined that the word chain game is to be continued by the evaluation unit, wherein a wrong word that leads to termination of the word chain game due to the computer system breaking the rule is allowed as a selected word *(selecting a word for voice synthesis in response to a user input, wherein a word ending in a predetermined game-ending "n".can be selected, Pages 5-6, Paragraphs 0007-0009; and Fig. 2, Steps 11-13)*;

An output unit that is configured to output the selected word selected by the selection *(voice synthesizer for providing a voice response to a user, Pages 5-6, Paragraphs 0007-0009).*

With respect to **Claim 15**, Ishibashi further discloses:

A vocabulary data base further stores a plurality of a series of words which are chained in accordance with the rule of the word chain game *(vocabulary words that are chained together according to the shiritori game rules, Pages 5-6, Paragraphs 0006-0007)*, and

Said selection unit selects the word for answering the user from those included in the plurality of the series of the words stored in the data base in order not to terminate the word chain game due to a difficulty for searching for a next word *(words used by a voice synthesizer to continue a game dialog that follow the rules of the shiritori game, Pages 5-6, Paragraphs 0007-0008).*

With respect to **Claim 16**, Ishibashi further discloses:

A response anticipating unit configured to anticipate a response from said user if the word selected by the selected unit is received and responded to by the user *(predicting a response from a user as having to begin in a certain manner and predicting a response to a user based on the last portion of the user input, Pages 5-6, Paragraphs 0007-0009; and Fig 2, Step 11)*.

Claim 70 contains subject matter similar to Claim 14, and thus, is rejected under similar rationale.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. **Claims 1, 3, 6, 12, 37, 39-43, 48-51, 53-54, 56, 58-59, and 62-63** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishibashi in view of Strubbe et al *(U.S. Patent: 6,721,706)*.

With respect to **Claim 1**, Ishibashi discloses:

A database that stores a dictionary containing a plurality of words *(speech recognizer word vocabulary, Pages 5-6)*;

A recognition unit configured to recognize a user's input and understand what the user says by referring to a dictionary stored in the database *(speech recognizer that is capable of recognizing words from a game vocabulary stored in a memory, Pages 5-6)*;

An evaluation unit configured to evaluate a consistency of an interactive dialog, the consistency of the interactive dialog being established even if a spoken language spoken by the user contains a word reflecting a fact that the user makes a mistake in inputting the user's input to the computer system *(determining if a user speech input during a game dialog is consistent with system rules even if an incorrect user entry is received Page 5, Paragraph 0007)*;

A determining unit configured to determine whether or not the interactive dialog with the user is to be continued even further based on a result of the evaluated consistency of the interactive dialog with the user *(determining whether a game dialog should continue based on the consistency of voice responses with respect to game dialog rules, Pages 5-6, Paragraphs 0007-0009)*;

A selection unit configured to select words from the dictionary to generate a voice output which is used to answer a user's voice input if it is determined that the interactive dialog is to be continued further by the determining *unit (control unit that selects a response to a user's input for output via a voice synthesizer in an ongoing game dialog, Pages 5-6, Paragraphs 0007-0009)*;

An output unit configured to output the voice generated by the selection unit to the user *(voice synthesizer for providing a voice response to a user, Pages 5-6, Paragraphs 0007-0009)*.

Although Ishibashi discloses an interactive dialog enabling a user to participate in a rule-based voice dialog with a computer system, Ishibashi does not teach phrasal communication for

an ongoing dialog. Strubbe, however, discloses phrase templates and associated syntax structure for recognizing user speech and providing voice replies *(Col. 9, Lines 1-62; Col. 16, Lines 16-50)*.

Ishibashi and Strubbe are analogous art because they are from a similar field of endeavor in interactive speech recognition systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Ishibashi with the phrase templates and associated syntax taught by Strubbe in order to achieve a more convincing user-computer dialog *(Strubbe, Col. 16, Lines 1-17)*.

With respect to **Claim 3**, Ishibashi further discloses:

The recognition unit is a speech recognition unit that recognizes the spoken language spoken by the user *(speech recognition device, Pages 5-6, Paragraph 0007)*, further comprising:

A voice synthesizing unit configured to synthesize the voice generated by the selection unit as voice sound *(voice synthesizer, Pages 5-6, Paragraph 0007)*.

While Strubbe discloses the phrasal user-computer communication as applied to claim 1.

With respect to **Claim 6**, Ishibashi further discloses:

The evaluation unit evaluates a consistency of the interactive dialog with said user based on at least one of a profile of the user, a probability of using a word, voice characteristics, a time lapse for a response from said user, a response speed of said user and a dialog circumstance *(evaluating a game dialog based on time lapse and dialog contexts, Pages 5-6, Paragraphs 0007-0008)*.

With respect to **Claim 12**, Strubbe discloses the phrase templates used to provide a voice reply based on a user input, as applied to claim 1.

With respect to **Claim 37**, Strubbe further discloses:

Interrogating by using said voice synthesize unit, said user about said question from said user of which answer is not yet known to the system; and storing an answer of said question and scenario regarding the interrogation *(obtaining information on an unfamiliar answer, Col. 27, Line 41- Col. 28, Line 30; synthesized system queries presented to a user for obtaining answer information, Col. 10, Lines 10-62; and Col. 19, Lines 5-7; and text-to-speech converter for generating a spoken response, Col. 25, Line 53- Col. 26, Line 18).*

With respect to **Claim 39**, Strubbe further discloses:

The database that stores a scenario under which a plurality of words are reconstructed in order to prevent making an erroneous assumption in a context of the interactive dialog, the scenario having appeared at least two times in the interactive dialog between the user and the computer system, and a scenario under which the plurality of words are reconstructed is rewritten as a frequently-used scenario if the same plurality of words leads to a different scenario *(common scenario occurring a plurality of times between a user and an interactive system, which is re-written to vary responses, Col. 18, Line 18- Col. 19, Line 4).*

With respect to **Claim 40**, Strubbe further discloses:

The Selection unit chooses an earlier scenario, when said scenarios are used at the same probability *(weighting uniform probabilities of conversation topics, so that an older topic of conversation will be selected, Col. 18, Lines 38-48).*

With respect to **Claim 41**, Strubbe further discloses:

Selection unit selects words and generates a phrase from the words to be used as an answer to the user's input such that a scenario under which the words are reconstructed is

different from that under which the interactive dialog between the user and the computer system has been carried out *(varying previous common scenarios, Col. 18, Line 18- Col. 19, Line 4).*

With respect to **Claim 42**, Strubbe further discloses:

A voice synthesizing unit that outputs the phrase generated by the selection unit as a voice sound, wherein the speech recognition unit further recognizes a degree of a user's satisfaction with a currently proceeding dialog between the user and the computer system by sensing a tone of the spoken language spoken by the user, and the voice synthesizing unit controls a tone of the voice sound in response to the degree of the user's satisfaction *(user's emotional state, judged by tone and responded to with an appropriate intonation, Col. 11, Lines 28-67; and Col. 22, Lines 37-67).*

With respect to **Claim 43**, Strubbe further discloses:

If the user's satisfaction is not recognized, the speech recognition unit analyzes whether said user is not satisfied with the system or with a general affair that is a subject matter of the interactive dialog; and said voice synthesizing unit controls a tone of the voice sound in accordance with the analysis result *(attempt to recognize and respond to a user's dissatisfaction with a topic with consistent intonation, Col. 11, Lines 28-67).*

With respect to **Claim 48**, Strubbe further discloses:

The recognition unit recognizes a personal profile of the user from the user's input, the personal profile of the user includes how old the user is and the user is either make or female, and the synthesizing unit changes a tone of the voice sound which is outputted from the computer system in accordance with the personal profile of the user *(output choice based on user*

profile including age and gender information, which includes intonation, Col. 11, Lines 28-67; and Col. 13, Line 61- Col. 14, Line 9).

With respect to **Claim 49**, Strubbe further discloses:

A face recognition unit that captures an image of a user's face and recognizes a personal profile of the user from the user's face, the personal profile of the user including how old the user is and the user is either male or female, wherein the synthesizing unit changes a tone of the voice sound which is outputted from the computer system in accordance with the personal profile of the user *(video image classifier that identifies a user, Col. 21, Lines 35-61; and output intonation choice based on biometric user identification scheme to identify user information including age and gender, Col. 11, Lines 28-67; and Col. 13, Line 61- Col. 14, Line 9).*

With respect to **Claims 50-51**, Strubbe further discloses:

The selection unit selects the words and generates a phrase so as to answer the user's input with the phrase in accordance with the personal profile of the user recognized by the recognition unit *(choice of a voice output based on the identified user, Col. 13, Line 61- Col. 14, Line 9).*

With respect to **Claim 53**, Strubbe further discloses:

The face recognition unit detects a direction of the user's face, and the recognition unit uses the image of the user's face in order to recognize a user's input and understands what the user says only if the face recognition unit captures a whole face of the user *(chatterbot, abstract, featuring a plurality of cameras, Fig. 1, Elements 135-136, and gaze recognition, which is used to determine when a user wishes to converse (i.e., activate a speech recognizer), Col. 10, Line 59- Col. 11, Line 9).*

With respect to **Claim 54**, Strubbe further discloses:

The face recognition unit has a plurality of cameras, said plurality of cameras so as to watch a wide scope, thereby determining whether or not said user's face is directed to said one of the plurality of the cameras, and, the recognition unit uses the image of the user's face in order to recognize the user's input and understands what the user says only if the face recognition unit captures the whole face of the user *(chatterbot, abstract, featuring a plurality of cameras, Fig. 1, Elements 135-136, and gaze recognition, which is used to determine when a user wishes to converse (i.e., activate a speech recognizer), Col. 10, Line 59- Col. 11, Line 9).*

With respect to **Claim 56**, Strubbe further discloses:

The face recognition unit has a camera and if the camera is not in front of said user's face, the camera moves in order to catch the user's face *(camera zooms on user's face if it is not directly in front, Col. 32, Lines 52-64).*

With respect to **Claim 58**, Ishibashi in view of Strubbe recites the interactive dialog system as applied to claim 1, while Strubbe further discloses system implementation as a program method running on a computer controller *(Col. 19, Lines 55-56).*

Claim 59 contains subject matter similar to claim 1, and thus, is rejected under similar rationale.

With respect to **Claim 62**, Ishibashi discloses analyzing machine or user mistakes to determine appropriate dialog steps *(Pages 5-6, Paragraphs 0007-0008)*, while Strubbe discloses a means for determining system understanding mistakes and issuing a recovery response *(Col. 18, Line 64- Col. 19, Line 4).*

Claim 63 contains subject matter similar to claim 6, and thus, is rejected under similar rationale.

20. **Claims 7, 9, 44, and 46** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishibashi in view of Strubbe et al and further in view of Arnold et al *(U.S. Patent: 7,013,275)*.

With respect to **Claim 7**, Ishibashi in view of Strubbe discloses the interactive dialog system as applied to claim 3. Strubbe further discloses recognizing tone in a user's utterance *(Col. 22, Lines 37-67)*. Ishibashi in view of Strubbe does not teach recognizing a user's accent, however, Arnold recites an interactive voice response system that analyzes a user's voice to determine adapt for user accents *(Col. 2, Lines 8-28)*.

Ishibashi, Strubbe, and Arnold are analogous art because they are from a similar field of endeavor in interactive speech recognition systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Ishibashi in view of Strubbe with the accent identification means taught by Arnold in order to account for diverse acoustic characteristics of speech in recognition *(Arnold, Col. 1, Lines 39-46)*.

With respect to **Claim 9**, Strubbe further discloses:

The recognition unit robustifies the spoken language spoken by the user at least by excluding a monologue of said user *(ignoring non-relevant words, Col. 16, Lines 16-46)*.

Claim 44 contains subject matter similar to Claim 7, and thus, is rejected under similar rationale.

With respect to **Claim 46**, Strubbe further discloses:

The synthesizing unit changes a tone of the voice sound which is outputted from the computer system such that the voice sound of the computer system is identical to that of the user's input *(voice response in a user's voice, Col. 9, Lines 45-62).*

21. **Claims 11, 65, and 67-69** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishibashi in view of Strubbe et al and further in view of Waters *(U.S. Patent: 5,540,589).*

With respect to **Claim 11**, Ishibashi in view of Strubbe discloses the interactive dialog system as applied to claim 3. Ishibashi in view of Strubbe does not teach judging whether a mistake is allowed and selecting a response to a user even if the user speaks a word corresponding to a mistake. Waters, however, discloses an interactive computer system that determines weather a spoken user response corresponding to an error is allowed, and if so, pushes on through a dialog *(Col. 8, Lines 23-30 and 42-52).*

Ishibashi, Strubbe, and Waters are analogous art because they are from a similar field of endeavor in interactive speech recognition systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Ishibashi in view of Strubbe with the error allowance concept taught by Waters in order to prevent upsetting a user and be tolerant of speech recognition errors *(Waters, Col. 8, Lines 23-30).*

Claim 65 contains subject matter similar to claim 11, and thus, is rejected under similar rationale, wherein a misrecognition would be allowed and directed to an error in spelling and syntax. Also, Strubbe further teaches learning user keywords through user responses to system voice outputs *(Col. 13, Lines 32-60).*

With respect to **Claim 67**, Ishibashi discloses that a dialog is continued even if a user's word contains a mistake *(Pages 5-6, Paragraphs 0007-0008)*.

With respect to **Claim 68**, Ishibashi discloses analyzing machine or user mistakes to determine appropriate dialog steps *(Pages 5-6, Paragraphs 0007-0008)*, while Strubbe discloses a means for determining system understanding mistakes and issuing a recovery response *(Col. 18, Line 64- Col. 19, Line 4)*.

Claim 69 contains subject matter similar to Claims 59 and 11, and thus, is rejected under similar rationale.

22. **Claims 13 and 64** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishibashi in view of Strubbe et al and further in view of Wiggins et al *(U.S. Patent: 4,439,161)*.

With respect to **Claim 13**, Ishibashi in view of Strubbe discloses the interactive dialog system as applied to claim 3. Ishibashi in view of Strubbe does not teach that a wrong answer is selected, however Wiggins recites an interactive device utilizing speech recognition that provides an incorrect answer to a user's question *(Col. 3, Line 15- Col. 4, Line 10)*.

Ishibashi, Strubbe, and Wiggins are analogous art because they are from a similar field of endeavor in interactive speech recognition systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Ishibashi in view of Strubbe with the concept of providing an incorrect answer to a user as taught by Wiggins in order to reinforce learning and allow a user a sense of satisfaction when a mistake is caught *(Wiggins, Col. 4, Lines 3-10)*.

Claim 64 contains subject matter similar to claim 13, and thus, is rejected under similar rationale.

23. **Claims 17-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishibashi in view of Stansvik *(U.S. Patent: 6,905,340)*.

With respect to **Claim 17**, Ishibashi discloses the interactive dialog system as applied to claim 14. Although Ishibashi does teach measuring an adjustable time period to detect whether a user is unable to respond, Ishibashi does not teach that a hint is issued after a timeout is reached, however, Stansvik discloses that a user is provided with a hint to a question after a certain time period has elapsed *(Col. 15, Lines 7-28)*.

Ishibashi and Stansvik are analogous art because they are from a similar field of endeavor in interactive systems utilizing speech recognition. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Ishibashi with the means for providing a hint to a user as taught by Stansvik in order to provide additional features to assist a user in an interactive learning process *(Stansvik, Col. 15, Lines 7-8)*.

With respect to **Claim 18**, Ishibashi discloses a difficulty setting means in the form of a time element with less time being more difficult (Page 6, Paragraph 0006). Also, Stansvik further discloses:

A difficulty degree set-up unit for fixing an intellectual level of said dialog, wherein the selection unit selects a system question on the basis of the difficulty degree *(difficulty level used in providing a response to a user, Col. 3, Line 53- Col. 4, Line 51)*.

24. **Claims 38, 60-61, and 71-72** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishibashi in view of Strubbe et al and further in view of Toyoda (U.S. Patent: 6,452,348).

With respect to **Claim 38**, Ishibashi in view of Strubbe discloses the interactive dialog system as applied to claim 37. Although Strubbe does teach learning new dialog scenarios and associated word and phrase templates for recognition/response as applied to Claim 37, Ishibashi in view of Strubbe does not teach learning new vocabulary where the recognition unit has difficulty recognizing the user's input. Toyoda, however, discloses detecting an unknown word or word chain in speech recognition and registering unknown terms in a dictionary (Fig. 9, Steps 12-13; and Col. 8, Lines 40-67).

Ishibashi, Strubbe, and Toyoda are analogous art because they are from a similar field of endeavor in interactive speech recognition systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Ishibashi in view of Strubbe with the speech recognition learning means taught by Toyoda in order to provide a means for making unknown words known to and capable of being analyzed by a recognizer *(Toyoda, Col. 8, Lines 64-67)*.

Claim 60 contains subject matter similar to claim 38, and thus, is rejected under similar rationale. Also, Strubbe further teaches learning user keywords through user responses to system voice outputs *(Col. 13, Lines 32-60)*.

With respect to **Claim 61**, Ishibashi discloses that a dialog is continued even if a user's word contains a mistake *(Pages 5-6, Paragraphs 0007-0008)*.

Claim 71 contains subject matter similar to claim 60, and thus, is rejected under similar rationale.

Claim 72 contains subject matter similar to claim 15, and thus, is rejected under similar rationale.

25. **Claim 52** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishibashi in view of Strubbe et al and further in view of Kondo et al *(U.S. Patent: 6,449,591)*.

With respect to **Claim 52**, Ishibashi in view of Strubbe discloses the interactive dialog system as applied to Claim 49. Although Strubbe further discloses the use of image recognition for emotion and gaze determination *(Col. 21, Lines 35-61)*, Strubbe in view of Marx does not specifically suggest the execution of lip reading for speech recognition, however such an application of image recognition is well-known in the speech recognition art, as is evidenced by Kondo (Col. 7, Lines 28-43).

Ishibashi, Strubbe, and Kondo are analogous art because they are from a similar field of endeavor in interactive speech recognition systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Ishibashi in view of Strubbe with the image recognition means taught by Kondo in order to improve the speech recognition rate *(Kondo, Col. 2, Lines 14-19)*.

26. **Claims 55 and 57** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishibashi in view of Strubbe et al and further in view of Yoshida *(U.S. Patent: 6,708,081)*.

With respect to **Claim 55**, Ishibashi in view of Strubbe discloses the interactive dialog system utilizing gaze detection as applied to Claim 53. Although Strubbe further discloses a single microphone set up around a chatterbot's head *(Fig. 1, Element 112)*, Ishibashi in view of

Strubbe does not specifically recite the use of a plurality of directional microphones, however Yoshida discloses the use of several directional microphones in an interactive apparatus *(Col. 7, Line 62- Col. 8, Line 3)*.

Ishibashi, Strubbe, and Yoshida are analogous art because they are from a similar field of endeavor in interactive speech recognition systems. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Ishibashi in view of Strubbe with the use of several directional microphones taught by Yoshida in order to provide a further means for detecting a sound source *(Yoshida, Col. 7, Line 65- Col. 8, Line 3)*.

With respect to **Claim 57**, Strubbe further discloses:

The face recognition unit has a camera and if the camera is not in front of said user's face, the camera moves in order to catch the user's face *(camera zooms on user's face if it is not directly in front, Col. 32, Lines 52-64)*.

27. **Claim 66** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishibashi in view of Strubbe et al in view of Waters and further in view of Toyoda *(U.S. Patent: 6,452,348)*.

With respect to **Claim 66**, Ishibashi in view of Strubbe and further in view of Waters discloses the interactive dialog system as applied to Claim 65, while Toyoda teaches the means for adding unknown words to a vocabulary, as applied to claim 38.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

IBM ("Word-chain Game System," 2001)- discloses a word-chain game system having user-determined/modified genres, rules, and lexicons.

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached at (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James S. Wozniak
12/11/07

PATRICK N. EDOUARD
SUPERVISORY PATENT EXAMINER